Revision 1

Store at -20C

Ambra1 Antibody

#24907

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	135-150	Rabbit	#Q9C0C7	55626

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Ambra1 Antibody recognizes endogenous levels of total Ambra1 protein. A band of unknown origin is observed at 75 kDa in some cell lines.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu220 of human Ambra1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Activating molecule in Beclin1-regulated autophagy (Ambra1) is a WD40-containing protein expressed during neurodevelopment that is required for neural tube development and autophagy (1). Several studies have identified interactions between Ambra1 with regulators of autophagy and apoptosis (reviewed in 2). Ambra1 was originally found to interact with Beclin-1, a key protein responsible for activating the class III PI3K Vps34 (1). Further studies showed that Ambra1 tethers the Beclin-1-Vps34 complex to the cytoskeletal network through dynein light chains and that during autophagy ULK1 phosphorylates Ambra1, resulting in disassociation with dynein and translocation of the Beclin-Vps34 complex to the endoplasmic reticulum to initiate autophagosome formation (3,4). In addition, it has been found that Ambra1 binds to mitochondrial Bcl-2 and that this interaction is regulated by either apoptosis or autophagy (5,6). Ambra1 also interacts with Parkin, an E3 ubiquitin ligase important for mitophagy, a selective autophagic process of mitochondrial clearance (7,8).

Background References

1. Fimia, G.M. et al. (2007) *Nature* 447, 1121-5.
2. Fimia, G.M. et al. (2013) *Oncogene* 32, 3311-8.
3. Di Bartolomeo, S. et al. (2010) *J Cell Biol* 191, 155-68.
4. Fimia, G.M. et al. (2011) *Autophagy* 7, 115-7.
5. Strappazzon, F. et al. (2011) *EMBO J* 30, 1195-208.
6. Tooze, S.A. and Codogno, P. (2011) *EMBO J* 30, 1185-6.
7. Van Humbeeck, C. et al. (2011) *J Neurosci* 31, 10249-61.
8. Van Humbeeck, C. et al. (2011) *Autophagy* 7, 1555-6.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses

force or effect.

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